

What is claimed is:

1. A magnetic stereotactic system for treatment delivery, the system comprising:
  - a plurality of magnetic coils arranged to at least partially to surround a body part and generate a changeable magnetic field to guide a magnetic object within the body part;
  - 5 at least one x-ray source and at least one x-ray detector on opposite sides of the body part, and outside the magnetic coils but aligned with the magnetic coils to provide images of the body part that is partially surrounded by the coils.
2. The magnetic stereotactic system according to claim 1 wherein there are at least two x-ray sources and at least two x-ray detectors, each x-ray source being aligned with one of the x-ray detectors on a line that extends through at least one of the coils.
3. The magnetic stereotactic system according to claim 2 wherein there is a first x-ray source aligned with a first x-ray detector along a first line, and a second x-ray source aligned with a second x-ray detector along a second line, and wherein the first and second lines are mutually perpendicular.
4. A magnetic stereotactic system for treatment delivery, the system comprising:
  - a plurality of hollow magnetic coils having generally central openings, the coils being arranged to surround a body part and generate a changeable magnetic field to guide a magnetic object within the body part;
  - 5 at least one x-ray source and at least one x-ray detector on opposite sides of the body part, and outside the hollow magnetic coils but aligned with their central opening to provide images of the body part inside the coils.
5. The magnetic stereotactic system according to claim 4 wherein there are at least two x-ray sources and at least two x-ray detectors, each x-ray source being aligned with one of the x-ray detectors on a line that extends through at least one of the coils.
6. The magnetic stereotactic system according to claim 5 wherein there is a first x-ray source aligned with a first x-ray detector along a first line, and a second x-ray source

aligned with a second x-ray detector along a second line, and wherein the first and second lines are mutually perpendicular.

7. A method of magnetically navigating a medical device coupled to a magnet through a body part a specific location within the body part, the method comprising:

5 at least partially surrounding the body part with a plurality of magnetic coils arranged to generate a changeable magnetic field to guide the magnet coupled to the medical device within the body part;

10 displaying images of the body part and the location of the medical device therein from at least one x-ray source and at least one x-ray detector positioned on opposite sides of the body part, the x-ray source and detector being outside the magnetic coils but the path between the at least one x-ray source and its associated detector being aligned with at least one of the coils to provide images of the body part partially surrounded by the coils;

15 changing the magnetic field created by the coils to move the medical device toward the specific location in the body based on the present location of the medical device as revealed on the displayed image.

8. The method according to claim 7, wherein the step of displaying images of the body part and the location of the medical device therein comprises displaying images from two mutually perpendicular planes.

9. The method according to claim 7 wherein the magnetic coils are generally hollow, having a generally central opening, and wherein the x-ray source and the x-ray detectors are aligned with the generally central opening of the coils.

10. A method of delivering medical treatment to a specific location in the body, the method comprising the steps of:

5 providing a medical treatment device coupled to a magnetic object, the medical treatment device having a thin elongate portion;

moving the medical treatment device within the body to the specific location in the body by applying a magnetic field to move the magnetic object coupled to the medical treatment device, leaving the thin elongate portion in the path through the body; and

10

removing the medical treatment device from the body by pulling the thin elongate portion to pull the medical treatment device from the body.

11. A method of delivering medical treatment to a specific location in the body, the method comprising the steps of:

temporarily coupling a magnet to a medical treatment device having a thin, elongate 5 portion;

portion;  
moving the medical treatment device within the body to the specific location in the body by applying a magnetic field to move the magnetic object coupled to the medical treatment device, leaving the thin elongate portion of the medical treatment device in the path 10 through the body;

decoupling the magnet from the medical treatment device, and removing the magnet from the body; and

15

removing the medical treatment device from the body by pulling the thin elongate portion to pull the medical treatment device from the body.